

SAF-RC-212
100-IU-2 & 100-IU-6 Miscellaneous
Restoration Sites Near 100-F –
Other
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 4/9/12
 INITIAL/DATE

COMMENTS:

SDG J01440 SAF-RC-212

Rad only Chem only Rad & Chem
 Complete Partial

Sample Location: 600-329 Paint

ANALYTICAL REPORT

Job Number: 280-26371-1

SDG Number: J01440

Job Description: SAF# RC-212

For:
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

Attention: Joan H Kessner



Approved for release.
Kae E Yoder
Project Manager II
4/6/2012 2:12 PM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com
04/06/2012

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is E87667.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-26371-1

**SDG #: J01440
SAF#: RC-212**

**Date SDG Closed: April 2, 2012
Data Deliverable: 21 Day & 7 Day / Summary**

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1NLK3	280-26371-1	6010/7471/1311-6010-7470/8082	6010B/7471A/1311-6010B-7470A/8082

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

The results, RLs and MDLs included in this report have been adjusted for dry weight, as appropriate.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The sample was received on 3/8/2012; the sample arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 1.8 C.

Sample J1NLK3, requesting TCLP Metals 1311/6010B/7470A analyses, was leached and placed on hold, as instructed on the chain-of-custody. On 4/2/2012, the client instructed the laboratory to proceed with the requested TCLP Metals 1311/6010B/7470A analyses for sample J1NLK3.

GC SEMIVOLATILES - SW846 8082 - PCBs

The laboratory noted that sample J1NLK3 had to be run through the crusher prior to any aliquoting or extraction. The sample was a yellow, block-like solid.

The temperature of the refrigerator where the extract of sample J1NLK3 was stored prior to concentration was out of control for ~6 hours with a temperature below control limits. The extract was brought up to room temperature prior to concentration.

The laboratory noted that a Sulfuric Acid clean-up was performed on sample J1NLK3 to reduce matrix interferences.

The laboratory noted that sample J1NLK3 contained more than one Aroclor component. Results should be considered estimated due to shared peaks.

The RPD between the primary and confirmation columns exceeded 25% for Aroclor 1254 in sample J1NLK3. The result has been flagged with a "P".

The MS/MSD performed on sample J1NLK3 exhibited percent recoveries outside the control limits for Aroclor 1260, and the associated sample result has been flagged "N". The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. Due to high constituent concentration and matrix interferences, sample J1NLK3 required either a 5X or a 10X dilution prior to the analysis of several elements. The reporting limits have been adjusted relative to the dilutions required.

Chromium is present at a level greater than the reporting limit in the method blank associated with batch 280-111088. As the associated sample amount is twenty times greater than the method blank concentration, corrective action is deemed unnecessary.

Low levels of Lead are present at a level greater than half the reporting limit in the method blank associated with batch 280-111088. As the associated sample amount is twenty times greater than the method blank concentration, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Calcium, Cobalt, Chromium and Lead in the Matrix Spike performed on sample J1NLK3; therefore, control limits are not applicable.

The Matrix Spike performed on sample J1NLK3 exhibited percent recoveries outside the control limits for Iron, Magnesium, Sodium, Arsenic and Mercury, and the associated sample results have been flagged "N". There is no indication that the analytical systems were operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

The duplicate analysis of sample J1NLK3 exhibited RPD data outside the control limits for Mercury, and the associated sample result has been flagged "M". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

TCLP METALS - SW846 1311/6010B/7470A

Low levels of Barium and Silver are present in the method blank associated with batch 280-113903. Because the concentrations in the method blank are not present at a level greater than half the reporting limit, corrective action is deemed unnecessary.

The Matrix Spike performed on sample J1NLK3 exhibited percent recoveries outside the control limits for Lead and Mercury, and the associated sample results have been flagged "N". There is no indication that the analytical systems were operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

The duplicate analysis of sample J1NLK3 exhibited RPD data outside the control limits for Silver, and the associated sample result has been flagged "M". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-26371-1

Sdg Number: J01440

Lab Section	Qualifier	Description
GC Semi VOA		
	U	Analyzed for but not detected.
	N	MS, MSD: Spike recovery exceeds upper or lower control limits.
	P	This flag is used for an aroclor target analyte where there is greater than 25% difference for detected concentrations between the two GC columns
Metals		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	N	Recovery exceeds upper or lower control limits
	M	Sample duplicate precision not met.
	C	The analyte was detected in both the sample and the associated QC blank, and the sample concentration was </= 5X the blank concentration.

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL DEN	SW846 8082	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Metals (ICP)	TAL DEN	SW846 6010B	
Preparation, Metals	TAL DEN		SW846 3050B
TCLP Metals (ICP)	TAL DEN	SW846 6010B	
TCLP Extraction	TAL DEN		SW846 1311
Preparation, Total Metals	TAL DEN		SW846 3010A
TCLP Mercury	TAL DEN	SW846 7470A	
TCLP Extraction	TAL DEN		SW846 1311
Preparation, Mercury	TAL DEN		SW846 7470A
Mercury (CVAA)	TAL DEN	SW846 7471A	
Preparation, Mercury	TAL DEN		SW846 7471A
ASTM D-2216	TAL DEN	ASTM D-2216	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

ASTM = ASTM International

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Method	Analyst	Analyst ID
SW846 8082	Jackson, Todd D	TDJ
SW846 6010B	Harre, John K	JKH
SW846 7470A	Ivey, Crystal L	CLI
SW846 7471A	Ivey, Crystal L	CLI
ASTM D-2216	Berry III, Paul B	PBB

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-26371-1

Sdg Number: J01440

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-26371-1	J1NLK3	Solid	03/07/2012 1000	03/08/2012 0930

SAMPLE RESULTS

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-26371-1

Sdg Number: J01440

Client Sample ID: **J1NLK3**

Lab Sample ID: 280-26371-1

Date Sampled: 03/07/2012 1000

Client Matrix: Solid

% Moisture: 1.9

Date Received: 03/08/2012 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-112469	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-111180	Initial Weight/Volume:	30.5 g
Dilution:	1.0			Final Weight/Volume:	5000 uL
Analysis Date:	03/20/2012 1423			Injection Volume:	1 uL
Prep Date:	03/09/2012 2100			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		2.8	U	2.8	10
Aroclor 1221		8.0	U	8.0	17
Aroclor 1232		2.0	U	2.0	10
Aroclor 1242		4.7	U	4.7	10
Aroclor 1248		4.7	U	4.7	10
Aroclor 1254		90	P	2.6	10
Aroclor 1260		56	N	2.6	10
Surrogate		%Rec	Qualifier	Acceptance Limits	
Decachlorobiphenyl		67		59 - 130	
Tetrachloro-m-xylene		71		53 - 128	

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-26371-1

Sdg Number: J01440

Client Sample ID: J1NLK3

Lab Sample ID: 280-26371-1

Date Sampled: 03/07/2012 1000

Client Matrix: Solid

% Moisture: 1.9

Date Received: 03/08/2012 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-111767	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-111088	Lab File ID:	25A1031412.asc
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Analysis Date:	03/14/2012 2206			Final Weight/Volume:	100 mL
Prep Date:	03/14/2012 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Beryllium		0.031	U	0.031	0.19
Boron		0.93	U	0.93	1.9
Copper		1.6		0.21	0.95
Molybdenum		3.1		0.25	1.9
Nickel		2.5	B	0.12	3.8
Potassium		674		39.0	286
Selenium		0.82	U	0.82	0.95
Silver		0.49		0.15	0.19

Analysis Method:	6010B	Analysis Batch:	280-111767	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-111088	Lab File ID:	25A1031412.asc
Dilution:	5.0			Initial Weight/Volume:	1.07 g
Analysis Date:	03/14/2012 2258			Final Weight/Volume:	100 mL
Prep Date:	03/14/2012 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		4360		7.4	23.8
Barium		23.1		0.36	2.4
Cadmium		1.5		0.20	0.95
Calcium		28300		67.1	238
Cobalt		320		0.48	4.8
Iron		234	N	18.1	23.8
Magnesium		3090	N	17.6	95.2
Manganese		13.8		0.48	4.8
Silicon		487		27.0	47.6
Sodium		651	N	281	571

Analysis Method:	6010B	Analysis Batch:	280-111767	Instrument ID:	MT_025
Prep Method:	3050B	Prep Batch:	280-111088	Lab File ID:	25A1031412.asc
Dilution:	10			Initial Weight/Volume:	1.07 g
Analysis Date:	03/14/2012 2308			Final Weight/Volume:	100 mL
Prep Date:	03/14/2012 1400				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		34.1		3.6	5.7
Arsenic		6.3	UN	6.3	9.5
Chromium		26100		0.55	1.9
Lead		118000		2.6	4.8
Vanadium		0.90	U	0.90	19.0
Zinc		74.5		3.8	9.5

6010B TCLP Metals (ICP)-TCLP

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-26371-1

Sdg Number: J01440

Client Sample ID: **J1NLK3**

Lab Sample ID: 280-26371-1

Date Sampled: 03/07/2012 1000

Client Matrix: Solid

Date Received: 03/08/2012 0930

6010B TCLP Metals (ICP)-TCLP

Analysis Method:	6010B	Analysis Batch:	280-114160	Instrument ID:	MT_025
Prep Method:	3010A	Prep Batch:	280-113903	Lab File ID:	25A5040312.asc
Dilution:	1.0	Leach Batch:	280-111106	Initial Weight/Volume:	10 mL
Analysis Date:	04/04/2012 0007			Final Weight/Volume:	50 mL
Prep Date:	04/03/2012 1400				
Leach Date:	03/09/2012 1533				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Arsenic		0.022	U	0.022	0.50
Barium		0.16	B	0.0020	1.0
Cadmium		0.0048	B	0.0020	0.10
Chromium		0.11	B	0.0030	0.50
Lead		13.5	N	0.013	0.50
Selenium		0.024	U	0.024	0.10
Silver		0.025	B M C	0.0040	0.50

7470A TCLP Mercury-TCLP

Analysis Method:	7470A	Analysis Batch:	280-113998	Instrument ID:	MT_033
Prep Method:	7470A	Prep Batch:	280-113908	Lab File ID:	120402ab.TXT
Dilution:	1.0	Leach Batch:	280-111106	Initial Weight/Volume:	30 mL
Analysis Date:	04/02/2012 1914			Final Weight/Volume:	30 mL
Prep Date:	04/02/2012 1200				
Leach Date:	03/09/2012 1533				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Mercury		0.000030	U N	0.000030	0.0020

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-111384	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-110995	Lab File ID:	120312aa.txt
Dilution:	1.0			Initial Weight/Volume:	0.55 g
Analysis Date:	03/12/2012 1423			Final Weight/Volume:	50 mL
Prep Date:	03/12/2012 0920				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.019	M N	0.0061	0.019

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440**General Chemistry**Client Sample ID: **J1NLK3**

Lab Sample ID: 280-26371-1

Date Sampled: 03/07/2012 1000

Client Matrix: Solid

Date Received: 03/08/2012 0930

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	1.9		%	0.10	0.10	1.0	D-2216

Analysis Batch: 280-111285 Analysis Date: 03/12/2012 1016 Dry/Wt Corrected: N

QUALITY CONTROL RESULTS

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1

Sdg Number: J01440

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-111180					
LCS 280-111180/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-111180/1-A	Method Blank	T	Solid	3550C	
280-26371-1	J1NLK3	T	Solid	3550C	
280-26371-1MS	Matrix Spike	T	Solid	3550C	
280-26371-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Analysis Batch:280-112469					
LCS 280-111180/2-A	Lab Control Sample	T	Solid	8082	280-111180
MB 280-111180/1-A	Method Blank	T	Solid	8082	280-111180
280-26371-1	J1NLK3	T	Solid	8082	280-111180
280-26371-1MS	Matrix Spike	T	Solid	8082	280-111180
280-26371-1MSD	Matrix Spike Duplicate	T	Solid	8082	280-111180

Report Basis

T = Total

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-110995					
LCS 280-110995/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-110995/1-A	Method Blank	T	Solid	7471A	
280-26371-1	J1NLK3	T	Solid	7471A	
280-26371-1DU	Duplicate	T	Solid	7471A	
280-26371-1MS	Matrix Spike	T	Solid	7471A	
Prep Batch: 280-111088					
LCS 280-111088/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-111088/1-A	Method Blank	T	Solid	3050B	
280-26371-1	J1NLK3	T	Solid	3050B	
280-26371-1DU	Duplicate	T	Solid	3050B	
280-26371-1MS	Matrix Spike	T	Solid	3050B	
Prep Batch: 280-111106					
LCS 280-111106/2-B	Lab Control Sample	P	Solid	1311	
LCS 280-111106/2-C	Lab Control Sample	P	Solid	1311	
LB 280-111106/1-B	TCLP SPLPE Leachate Blank	P	Solid	1311	
LB 280-111106/1-C	TCLP SPLPE Leachate Blank	P	Solid	1311	
280-26371-1	J1NLK3	P	Solid	1311	
280-26371-1DU	Duplicate	P	Solid	1311	
280-26371-1MS	Matrix Spike	P	Solid	1311	
Analysis Batch:280-111384					
LCS 280-110995/2-A	Lab Control Sample	T	Solid	7471A	280-110995
MB 280-110995/1-A	Method Blank	T	Solid	7471A	280-110995
280-26371-1	J1NLK3	T	Solid	7471A	280-110995
280-26371-1DU	Duplicate	T	Solid	7471A	280-110995
280-26371-1MS	Matrix Spike	T	Solid	7471A	280-110995
Analysis Batch:280-111767					
LCS 280-111088/2-A	Lab Control Sample	T	Solid	6010B	280-111088
MB 280-111088/1-A	Method Blank	T	Solid	6010B	280-111088
280-26371-1	J1NLK3	T	Solid	6010B	280-111088
280-26371-1DU	Duplicate	T	Solid	6010B	280-111088
280-26371-1MS	Matrix Spike	T	Solid	6010B	280-111088
Prep Batch: 280-113903					
LCS 280-111106/2-B	Lab Control Sample	P	Solid	3010A	280-111106
LB 280-111106/1-B	TCLP SPLPE Leachate Blank	P	Solid	3010A	280-111106
280-26371-1	J1NLK3	P	Solid	3010A	280-111106
280-26371-1DU	Duplicate	P	Solid	3010A	280-111106
280-26371-1MS	Matrix Spike	P	Solid	3010A	280-111106

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-113908					
LCS 280-111106/2-C	Lab Control Sample	P	Solid	7470A	280-111106
LB 280-111106/1-C	TCLP SPLPE Leachate Blank	P	Solid	7470A	280-111106
280-26371-1	J1NLK3	P	Solid	7470A	280-111106
280-26371-1DU	Duplicate	P	Solid	7470A	280-111106
280-26371-1MS	Matrix Spike	P	Solid	7470A	280-111106
Analysis Batch:280-113998					
LCS 280-111106/2-C	Lab Control Sample	P	Solid	7470A	280-113908
LB 280-111106/1-C	TCLP SPLPE Leachate Blank	P	Solid	7470A	280-113908
280-26371-1	J1NLK3	P	Solid	7470A	280-113908
280-26371-1DU	Duplicate	P	Solid	7470A	280-113908
280-26371-1MS	Matrix Spike	P	Solid	7470A	280-113908
Analysis Batch:280-114160					
LCS 280-111106/2-B	Lab Control Sample	P	Solid	6010B	280-113903
LB 280-111106/1-B	TCLP SPLPE Leachate Blank	P	Solid	6010B	280-113903
280-26371-1	J1NLK3	P	Solid	6010B	280-113903
280-26371-1DU	Duplicate	P	Solid	6010B	280-113903
280-26371-1MS	Matrix Spike	P	Solid	6010B	280-113903

Report Basis

P = TCLP

T = Total

General Chemistry

Analysis Batch:280-111285				
280-26371-1	J1NLK3	T	Solid	D-2216
280-26371-1DU	Duplicate	T	Solid	D-2216

Report Basis

T = Total

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Method Blank - Batch: 280-111180

Method: 8082
Preparation: 3550C

Lab Sample ID:	MB 280-111180/1-A	Analysis Batch:	280-112469	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-111180	Lab File ID:	009F0901.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.8 g
Analysis Date:	03/20/2012 1337	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	03/09/2012 2100			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Aroclor 1016	2.7	U	2.7	9.7
Aroclor 1221	7.8	U	7.8	16
Aroclor 1232	1.9	U	1.9	9.7
Aroclor 1242	4.5	U	4.5	9.7
Aroclor 1248	4.5	U	4.5	9.7
Aroclor 1254	2.5	U	2.5	9.7
Aroclor 1260	2.5	U	2.5	9.7

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	95	59 - 130
Tetrachloro-m-xylene	91	53 - 128

Lab Control Sample - Batch: 280-111180

Method: 8082
Preparation: 3550C

Lab Sample ID:	LCS 280-111180/2-A	Analysis Batch:	280-112469	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-111180	Lab File ID:	010F1001.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.2 g
Analysis Date:	03/20/2012 1400	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	03/09/2012 2100			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	32.1	29.4	92	54 - 132	
Aroclor 1260	32.1	33.0	103	62 - 129	

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	96	59 - 130
Tetrachloro-m-xylene	92	53 - 128

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-111180**

**Method: 8082
Preparation: 3550C**

MS Lab Sample ID:	280-26371-1	Analysis Batch:	280-112469	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-111180	Lab File ID:	012F1201.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.3 g
Analysis Date:	03/20/2012 1446			Final Weight/Volume:	5000 uL
Prep Date:	03/09/2012 2100			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-26371-1	Analysis Batch:	280-112469	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-111180	Lab File ID:	013F1301.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.7 g
Analysis Date:	03/20/2012 1509			Final Weight/Volume:	5000 uL
Prep Date:	03/09/2012 2100			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Aroclor 1016	107	107	54 - 132	2	26		
Aroclor 1260	-15	-15	62 - 129	0	26	N	N
Surrogate	MS % Rec		MSD % Rec		Acceptance Limits		
Decachlorobiphenyl	71		78		59 - 130		
Tetrachloro-m-xylene	74		71		53 - 128		

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Method Blank - Batch: 280-111088

Method: 6010B

Preparation: 3050B

Lab Sample ID:	MB 280-111088/1-A	Analysis Batch:	280-111767	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-111088	Lab File ID:	25A1031412.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	03/14/2012 2201	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/14/2012 1400				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Aluminum	1.6	U	1.6	5.0
Antimony	0.38	U	0.38	0.60
Arsenic	0.66	U	0.66	1.0
Barium	0.076	U	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Cadmium	0.041	U	0.041	0.20
Calcium	14.1	U	14.1	50.0
Chromium	0.268		0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	3.8	U	3.8	5.0
Lead	0.313	B	0.27	0.50
Magnesium	3.7	U	3.7	20.0
Manganese	0.10	U	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.12	U	0.12	4.0
Potassium	41.0	U	41.0	300
Selenium	0.86	U	0.86	1.0
Silicon	5.7	U	5.7	10.0
Silver	0.16	U	0.16	0.20
Sodium	59.0	U	59.0	120
Vanadium	0.094	U	0.094	2.0
Zinc	0.40	U	0.40	1.0

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Lab Control Sample - Batch: 280-111088

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-111088/2-A	Analysis Batch:	280-111767	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-111088	Lab File ID:	25A1031412.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	03/14/2012 2204	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/14/2012 1400				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	198.4	99	82 - 116	
Antimony	50.0	50.11	100	82 - 110	
Arsenic	100	99.71	100	85 - 110	
Barium	200	205.3	103	87 - 112	
Beryllium	5.00	5.17	103	84 - 114	
Boron	100	99.58	100	81 - 110	
Cadmium	10.0	9.72	97	87 - 110	
Calcium	5000	5048	101	82 - 114	
Chromium	20.0	20.65	103	84 - 114	
Cobalt	50.0	50.14	100	87 - 110	
Copper	25.0	26.15	105	88 - 110	
Iron	100	102.5	103	87 - 120	
Lead	50.0	50.93	102	86 - 110	
Magnesium	5000	4991	100	90 - 110	
Manganese	50.0	51.32	103	88 - 110	
Molybdenum	100	101.8	102	86 - 110	
Nickel	50.0	50.82	102	87 - 110	
Potassium	5000	5199	104	89 - 110	
Selenium	200	196.4	98	83 - 110	
Silicon	1000	246.1	25	10 - 70	
Silver	5.00	5.13	103	87 - 114	
Sodium	5000	5394	108	90 - 112	
Vanadium	50.0	51.38	103	88 - 110	
Zinc	50.0	49.49	99	76 - 114	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Matrix Spike - Batch: 280-111088

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-26371-1	Analysis Batch:	280-111088	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-111088	Lab File ID:	25A1031412.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.09 g
Analysis Date:	03/14/2012 2214	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/14/2012 1400				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Beryllium	0.031	U	4.67	4.80	103	72 - 105
Boron	0.93	U	93.5	89.35	96	75 - 107
Copper	1.6		23.4	24.96	100	37 - 187
Molybdenum	3.1		93.5	94.20	97	75 - 103
Nickel	2.5	B	46.7	47.77	97	61 - 126
Potassium	674		4670	5633	106	56 - 172
Selenium	0.82	U	187	187.1	100	76 - 104
Silver	0.49		4.67	5.12	99	75 - 141

Matrix Spike - Batch: 280-111088

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-26371-1	Analysis Batch:	280-111088	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-111088	Lab File ID:	25A1031412.asc
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	1.09 g
Analysis Date:	03/14/2012 2305	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/14/2012 1400				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	4360	187	4297	-34	50 - 200	4
Barium	23.1	187	204.9	97	52 - 159	
Cadmium	1.5	9.35	10.32	95	40 - 130	
Calcium	28300	4670	32460	90	43 - 165	4
Cobalt	320	46.7	303.9	-35	72 - 106	4
Iron	234	93.5	434.2	214	70 - 200	N
Magnesium	3090	4670	11720	185	64 - 145	N
Manganese	13.8	46.7	65.93	112	40 - 200	
Silicon	487	935	793.6	33	20 - 200	
Sodium	651	4670	6650	128	78 - 111	N

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Matrix Spike - Batch: 280-111088

Method: 6010B

Preparation: 3050B

Lab Sample ID:	280-26371-1	Analysis Batch:	280-111767	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-111088	Lab File ID:	25A1031412.asc
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	1.09 g
Analysis Date:	03/14/2012 2315	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/14/2012 1400				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	34.1	46.7	52.76	40	20 - 200	
Arsenic	6.3	U	40.73	44	76 - 111	N
Chromium	26100	18.7	24710	-7253	70 - 200	4
Lead	118000	46.7	112100	-11615	70 - 200	4
Vanadium	0.90	U	47.90	102	50 - 169	
Zinc	74.5	46.7	116.1	89	70 - 200	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Duplicate - Batch: 280-111088

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-26371-1	Analysis Batch:	280-111767	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-111088	Lab File ID:	25A1031412.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.14 g
Analysis Date:	03/14/2012 2211	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/14/2012 1400				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Beryllium	0.031	U	0.029	NC	30	U
Boron	0.93	U	0.88	NC	30	U
Copper	1.6		1.72	9	30	
Molybdenum	3.1		2.94	6	30	
Nickel	2.5	B	2.51	0.1	30	B
Potassium	674		688.8	2	40	
Selenium	0.82	U	0.77	NC	30	U
Silver	0.49		0.470	4	30	

Duplicate - Batch: 280-111088

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-26371-1	Analysis Batch:	280-111767	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-111088	Lab File ID:	25A1031412.asc
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	1.14 g
Analysis Date:	03/14/2012 2303	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/14/2012 1400				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	4360		4455	2	40	
Barium	23.1		24.29	5	30	
Cadmium	1.5		1.62	9	30	
Calcium	28300		28740	2	30	
Cobalt	320		321.6	0.4	30	
Iron	234		313.8	29	40	
Magnesium	3090		3281	6	30	
Manganese	13.8		14.75	7	40	
Silicon	487		524.0	7	40	
Sodium	651		729.8	11	30	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Duplicate - Batch: 280-111088

Method: 6010B

Preparation: 3050B

Lab Sample ID:	280-26371-1	Analysis Batch:	280-111767	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-111088	Lab File ID:	25A1031412.asc
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	1.14 g
Analysis Date:	03/14/2012 2312	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	03/14/2012 1400				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Antimony	34.1		33.44	2	40	
Arsenic	6.3	U	5.9	NC	30	U
Chromium	26100		26010	0.2	40	
Lead	118000		116300	1	40	
Vanadium	0.90	U	0.84	NC	30	U
Zinc	74.5		74.53	0.1	40	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

TCLP SPLPE Leachate Blank - Batch: 280-113903

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	LB 280-111106/1-B	Analysis Batch:	280-114160	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-113903	Lab File ID:	25A5040312.asc
Dilution:	1.0	Leach Batch:	280-111106	Initial Weight/Volume:	10 mL
Analysis Date:	04/04/2012 0002	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	04/03/2012 1400				
Leach Date:	03/09/2012 1533				

Analyte	Result	Qual	MDL	RL
Arsenic	0.022	U	0.022	0.50
Barium	0.0311	B	0.0020	1.0
Cadmium	0.0020	U	0.0020	0.10
Chromium	0.0030	U	0.0030	0.50
Lead	0.013	U	0.013	0.50
Selenium	0.024	U	0.024	0.10
Silver	0.00555	B	0.0040	0.50

Lab Control Sample - Batch: 280-113903

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	LCS 280-111106/2-B	Analysis Batch:	280-114160	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-113903	Lab File ID:	25A5040312.asc
Dilution:	1.0	Leach Batch:	280-111106	Initial Weight/Volume:	10 mL
Analysis Date:	04/04/2012 0004	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	04/03/2012 1400				
Leach Date:	03/09/2012 1533				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	4.00	3.70	93	80 - 120	
Barium	12.0	11.60	97	80 - 120	
Cadmium	1.10	1.10	100	80 - 120	
Chromium	5.20	5.17	99	80 - 120	
Lead	5.50	5.34	97	80 - 120	
Selenium	3.00	2.96	99	80 - 120	
Silver	1.05	1.05	100	80 - 120	

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Matrix Spike - Batch: 280-113903

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	280-26371-1	Analysis Batch:	280-114160	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-113903	Lab File ID:	25A5040312.asc
Dilution:	1.0	Leach Batch:	280-111106	Initial Weight/Volume:	10 mL
Analysis Date:	04/04/2012 0014	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	04/03/2012 1400				
Leach Date:	03/09/2012 1533				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	0.022	U	4.00	3.63	91	80 - 120
Barium	0.16	B	12.0	11.58	95	80 - 120
Cadmium	0.0048	B	1.10	1.09	99	80 - 120
Chromium	0.11	B	5.20	5.22	98	80 - 120
Lead	13.5		5.50	17.73	78	80 - 120
Selenium	0.024	U	3.00	2.92	97	80 - 120
Silver	0.025	B	1.05	1.06	98	80 - 120

Duplicate - Batch: 280-113903

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID:	280-26371-1	Analysis Batch:	280-114160	Instrument ID:	MT_025
Client Matrix:	Solid	Prep Batch:	280-113903	Lab File ID:	25A5040312.asc
Dilution:	1.0	Leach Batch:	280-111106	Initial Weight/Volume:	10 mL
Analysis Date:	04/04/2012 0012	Units:	mg/L	Final Weight/Volume:	50 mL
Prep Date:	04/03/2012 1400				
Leach Date:	03/09/2012 1533				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual	
Arsenic	0.022	U	0.022	NC	20	U
Barium	0.16	B	0.156	0.3	20	B
Cadmium	0.0048	B	0.00465	3	20	B
Chromium	0.11	B	0.113	2	20	B
Lead	13.5		13.27	1	20	
Selenium	0.024	U	0.024	NC	20	U
Silver	0.025	B	0.0154	46	20	B M

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440**TCLP SPLPE Leachate Blank - Batch: 280-113908****Method: 7470A**
Preparation: 7470A
TCLP

Lab Sample ID:	LB 280-111106/1-C	Analysis Batch:	280-113998	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-113908	Lab File ID:	120402ab.TXT
Dilution:	1.0	Leach Batch:	280-111106	Initial Weight/Volume:	30 mL
Analysis Date:	04/02/2012 1909	Units:	mg/L	Final Weight/Volume:	30 mL
Prep Date:	04/02/2012 1200				
Leach Date:	03/09/2012 1533				

Analyte	Result	Qual	MDL	RL
Mercury	0.000030	U	0.000030	0.0020

Lab Control Sample - Batch: 280-113908**Method: 7470A**
Preparation: 7470A
TCLP

Lab Sample ID:	LCS 280-111106/2-C	Analysis Batch:	280-113998	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-113908	Lab File ID:	120402ab.TXT
Dilution:	1.0	Leach Batch:	280-111106	Initial Weight/Volume:	30 mL
Analysis Date:	04/02/2012 1911	Units:	mg/L	Final Weight/Volume:	30 mL
Prep Date:	04/02/2012 1200				
Leach Date:	03/09/2012 1533				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.00833	0.00841	101	90 - 116	

Matrix Spike - Batch: 280-113908**Method: 7470A**
Preparation: 7470A
TCLP

Lab Sample ID:	280-26371-1	Analysis Batch:	280-113998	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-113908	Lab File ID:	120402ab.TXT
Dilution:	1.0	Leach Batch:	280-111106	Initial Weight/Volume:	30 mL
Analysis Date:	04/02/2012 1918	Units:	mg/L	Final Weight/Volume:	30 mL
Prep Date:	04/02/2012 1200				
Leach Date:	03/09/2012 1533				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.000030	U	0.00833	0.00729	88	90 - 116 N

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Duplicate - Batch: 280-113908

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	280-26371-1	Analysis Batch:	280-113998	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-113908	Lab File ID:	120402ab.TXT
Dilution:	1.0	Leach Batch:	280-111106	Initial Weight/Volume:	30 mL
Analysis Date:	04/02/2012 1916	Units:	mg/L	Final Weight/Volume:	30 mL
Prep Date:	04/02/2012 1200				
Leach Date:	03/09/2012 1533				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.000030	U	0.000030	NC	20	U

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Method Blank - Batch: 280-110995**Method: 7471A****Preparation: 7471A**

Lab Sample ID:	MB 280-110995/1-A	Analysis Batch:	280-111384	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-110995	Lab File ID:	120312aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.6 g
Analysis Date:	03/12/2012 1419	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	03/12/2012 0920				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-110995**Method: 7471A****Preparation: 7471A**

Lab Sample ID:	LCS 280-110995/2-A	Analysis Batch:	280-111384	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-110995	Lab File ID:	120312aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.6 g
Analysis Date:	03/12/2012 1421	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	03/12/2012 0920				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.430	103	87 - 111	

Matrix Spike - Batch: 280-110995**Method: 7471A****Preparation: 7471A**

Lab Sample ID:	280-26371-1	Analysis Batch:	280-111384	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-110995	Lab File ID:	120312aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.64 g
Analysis Date:	03/12/2012 1432	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	03/12/2012 0920				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.019	0.398	0.343	81	87 - 111	N

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Duplicate - Batch: 280-110995

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-26371-1	Analysis Batch:	280-111384	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-110995	Lab File ID:	120312aa.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	03/12/2012 1425	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	03/12/2012 0920				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	0.019	0.0246	26	20	M

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-26371-1
Sdg Number: J01440

Duplicate - Batch: 280-111285

Method: D-2216

Preparation: N/A

Lab Sample ID:	280-26371-1	Analysis Batch:	280-111285	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	03/12/2012 1016	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	1.9	2.2	15	20	

